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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,357	07/18/2003	Takashi Ohsawa	002372.00044	2565

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BANNER & WITCOFF
1001 G STREET N W
SUITE 1100
WASHINGTON, DC 20001

EXAMINER

TRAN, ANDREW Q

ART UNIT	PAPER NUMBER
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2824

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/621,357

Applicant(s)

OHSAWA, TAKASHI

Examiner

Andrew Q. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22-26 and 32-37 is/are rejected.
- 7) ☒ Claim(s) 27-31 and 38-44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/917,777.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>01/10/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Species A of Figs. 1 and 2 (claims 22-44) in the reply filed on January 10, 2006 is acknowledged.

Specification

A substitute specification is required pursuant to 37 CFR 1.125(a) because the instant specification contains numerous lines wherein words are poorly spaced. Examples of poorly spaced lines are : page 1, lines 13, 18 or 35.

A substitute specification must not contain new matter. The substitute specification must be submitted with markings showing all the changes relative to the immediate prior version of the specification of record. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. An accompanying clean version (without markings) and a statement that the substitute specification contains no new matter must also be supplied. Numbering the paragraphs of the specification of record is not considered a change that must be shown.

Claim Objections

Claims 27, 33 and 41-44 are objected to because of the following informalities:

In claim 27, line 3, "a" (second occurrence) should be changed to --the--;

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line 5, "a" (second occurrence) should be changed to --the--;

In claim 33, line 3, "a" should be changed to --the--;

In claim 41, line 2, "a" (both occurrence) should be changed to --the--;

line 3, "a" (second occurrence) should be changed to --the--;

In claim 42, line 2, "a" (both occurrence) should be changed to --the--;

line 3, "a" (second occurrence) should be changed to --the--;

In claim 43, line 2, "a" (both occurrence) should be changed to --the--;

line 3, "a" (second occurrence) should be changed to --the--;

In claim 44, line 2, "a" (both occurrence) should be changed to --the--; and

line 3, "a" (second occurrence) should be changed to --the--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 22-26 and 32-37 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki et al. (US Pat. 4,250,569 hereafter "Sasaki"). See for example Figs. 1, 3A-B, 5A-B and 6A-C.

As to claim 22, in Fig. 1, Sasaki discloses a semiconductor memory device including a plurality of transistors (memory elements MC1-MC4 in Fig. 3A), each transistor comprises a floating semiconductor layer of a first conduction type (floating substrate 5), a drain diffusion region of a second conduction type (drain 4), a source diffusion region of the second conduction

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type (source 3), and a gate electrode (gate electrode 7); wherein the transistor has a first data state in which excessive majority carriers are held in the semiconductor layer (col. 6, ln. 32-50), and the transistor has a second data state in which the excessive majority carriers are emitted from the semiconductor layer (col. 5, ln. 52-68 bridging to col. 6, ln. 1-12).

As to claim 23, see col. 6, ln. 32-50, and col. 5, ln. 52-68 bridging to col. 6, ln. 1-12. As to claim 24, Sasaki further discloses that the semiconductor layer is a silicon layer (floating substrate 5 of P-type silicon material, col. 3, ln. 50-53) formed on a silicon substrate (inherent for a semiconductor device) with an insulating film therebetween (dielectric substrate 1, col. 3, ln. 43-45). As to claim 25, see Fig. 1. As to claim 26, note in Fig. 1 that Sasaki's memory element 2 having source 3 connected to a ground potential, which is constant.

Claims 32-37 are similarly rejected based on same grounds.

Claims 22-26 and 32-37 are similarly rejected under 35 U.S.C. 102(b) as being anticipated by Koichi (JP Pub. 5-86864 hereafter "Koichi"). See Figs. 1-4.

Claims 22-26 and 32-37 are similarly further rejected under 35 U.S.C. 102(b) as being anticipated by Hiroshi et al. (JP Pub. 5-87027 hereafter "Hiroshi"). See Figs. 1-2.

Allowable Subject Matter

Claims 27-31 and 38-44 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:


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The prior art fails to teach or fairly suggest a semiconductor memory device having voltages applied to source lines, word lines, and bit lines during data write or data read, as claimed in claims 27-31 and 38-44.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Q. Tran whose telephone number is (571) 272-1885. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard T. Elms can be reached on (571) 272-1869. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Andrew Q Tran
Primary Examiner
Art Unit 2824

at
April 30, 2006